

H5003-002  
December 15, 2023

Dr. Michael Klemens, Chairman  
Planning & Zoning Commission  
27 Main Street  
P.O. Box 0548  
Salisbury, CT 06068

Re: **Hotchkiss School Dining Facility Renovations**

Dear Mr. Klemens:

We are in receipt of Engineering Review Comments dated November 20, 2023. We offer the following responses, with the initial comments repeated and our responses in bold face type.

## **Sheet C0-02**

1. *Due to the large amount of utility excavation associated with utility demolition, the E & S Control measures shall be depicted on this sheet. Additionally, the construction sequence shall include demolition operations to take place after the E & S perimeter controls are installed.*

**E & S Controls have been added to Sheet C0-02 for the utility demolition phase. Construction Sequence note 5 on drawing C4-02 has been expanded to state that site demolition operations shall not commence until after perimeter soil erosion and sediment controls have been installed.**

2. *The Site Utility Demolition Plan shall reference the Landscape Demolition Plan for all landscape removals.*

**Note 19. on sheet C0-02 states "Refer to project landscape plans for site demolition, tree Protection, and tree removals."**

3. *If any E & S control measures are to be installed after final grading is completed, said controls shall be labelled accordingly.*

**Note 22. has been added to C0-02 indicating SESC measures shown on that plan are to be installed prior to any soil disturbance including demolition activities, are to be adjusted as construction proceeds, and references drawing C4-01 for SESC measures during new construction activities.**

**The only SESC measures to be installed after final grading would be installation of erosion control blankets per note 23 on C4-01, for slopes 3:1 or greater. All other SESC measures are to be installed prior to final grading.**

**Note 22. on sheet C4-01 states that "After all disturbed areas have been stabilized, erosion controls may be removed once authorization to do so has been secured from the Town of Salisbury. Disturbed areas shall be seeded and mulched." It is the intent to keep the erosion and sedimentation controls in place until areas are stabilized.**

**Sheet C1-00**

1. *Note #9 indicates cleanouts to be installed 5 feet off face of building. No cleanouts are shown. (Also, indicated on Sheet C1-01)*

**Clean-out symbols have been added to the proposed sanitary sewer laterals on sheet C1-00, C1-01, C1-02 and C2-01. Call-outs for these sanitary sewer clean-outs have been added to sheet C2-01.**

2. *Storm and Sewer manholes are drawn with offset frame and covers, which is in conflict with Note#10.*

**The intent of Note 10. on sheet C1-00 is to assure that the manhole frame and cover is centered on the 24" opening in the precast concrete manhole top slab or cone section. This note is to avoid misalignment of the cover with the opening, which would obstruct access into the structure. It is not intended for the opening, frame and cover to be centered on the structure. The offset opening as shown on the manhole details is needed to access steps along the side of the precast structure.**

3. *Provide a gate valve for the proposed fire hydrant.*

**The gate valve is part of the hydrant assembly detail on sheet C5-04. A gate valve symbol has been added to sheets C1-00, C1-01, and C2-01. Gate valve is called out on sheet C2-01 Also, gate valve is shown on hydrant assembly detail, sheet C5-04.**

4. *Add fire department connection to proposed addition per note on Sheet C2-01.*

**A call-out has been added to C1-00 for the free standing fire department connection (FDC), along the driveway on the north side of the loading dock area. The free-standing fire department connection is also called out on sheet C2-01.**

**Sheet C1-01 & C5-03**

1. *The elevations for the outlet structure do not match.*

**The weir elevation has been removed from the call-out for the outlet control structure on sheet C1-01, and the call-out has been expanded to state "For additional outlet control information, see sheet C5-03". The Typical Outlet Control Structure detail on sheet C5-03 has been revised to show the top of weir at elevation 884.5 and the invert of the weir elevation to be 880.50.**

2. *Indicate inlet pipe location from CDS unit into the outlet structure.*

**Inlet pipe added to Typical Outlet Control Structure detail. Weir wall location adjusted to control flow from the inlet pipe.**

**Sheet C3-01**

1. *Revised Note 10. To read 6-inch minimum topsoil.*

**Note 10. has been revised to read 6-inch minimum topsoil.**

## Sheet C4-02

2. Provide Emergency Contact name and 24-hr. emergency contact telephone number for Responsible Party.

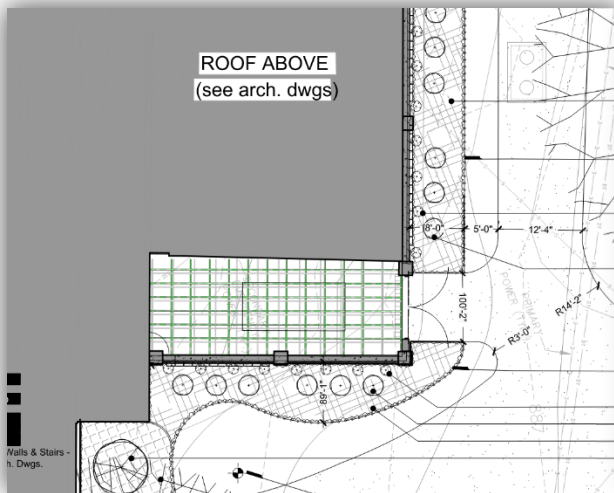
**Emergency contact information has been added to drawing C4-02.**

## Sheets L100 & L102

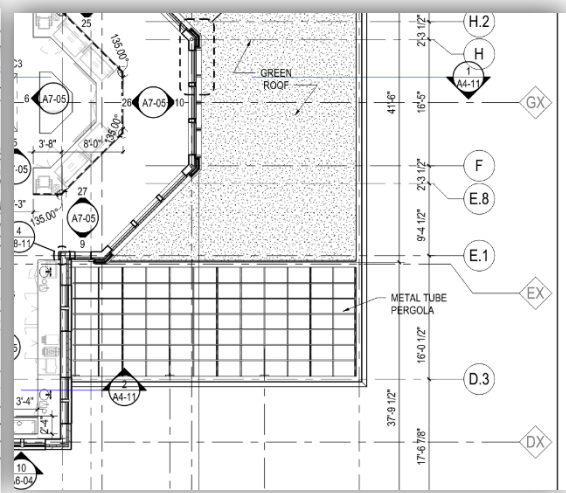
1. Clarify hatching in the loading dock and adjacent areas. Note: the hatch as shown does not appear in the Symbol Legend.

**The unidentified hatched area is a metal tube pergola, as depicted on architectural drawing A3-02.**

**From L102:**



**From A3-02:**





4. *It appears that a portion of the project may be within an existing NDDB area. Please verify.*

**See attached graphic of the NDDB area obtained from CTECO, with and overlay of the proposed project linework which is outside of the NDDB hatched area.**

5. *At least one sheet should show the proposed underground retention system with bottom unit elevations, limit of stone, size of manifold piping, etc. Will an isolator row be utilized?*

**Additional detail has been added to the stormwater management system on drawing C1-01, including the limits of stone, and size of manifold piping. The proposed underground detention system details have been updated on sheet C5-03, and includes elevations of stone encasement and chamber inverts. A water quality unit is proposed upstream of the StormTech chambers in-lieu-of an isolator row.**

#### **Drainage Analysis (Stormwater Management Reports dated 11/03/23)**

1. *Please update Table 1 (p.2-2) to provide the 5-Yr. & 25-Yr. storm events.*

**Table 1 has been updated in the revised report to include 5-Yr. & 25-Yr. storm events, as requested.**

2. *Due to the disturbed/developed area, recommend that sheet flow paths be limited to 100 feet maximum.*

**Sheet flow paths have been updated in the revised report to be limited to 100 feet maximum.**

3. *Due to the severely restrictive soil conditions on-site per the geotechnical report, we recommend that any infiltration/exfiltration to be utilized as a factor of safety. The depth of 4-4.5 feet which the sample was taken is shallow compared to the bottom of system elevation, which is 6.75 feet below grade.*

**The exfiltration value has been set to zero (0) in the revised report.**

4. *Indicate seasonal high groundwater elevations by the presence of redoximorphic features in TP-5, if available. Additional deep test pits will be required in the area of the proposed Stormwater Management System. Deep pits shall be at least 7 feet deep. **Please coordinate date/time with the Consulting Town Engineer for observation.***

**A test pit was performed on Wednesday (12/13/2023) at the location of the proposed infiltration system, with the Consulting Town Engineer present. Depth to restrictive layer was observed at approximately 53-inches below grade. As discussed in the field, the proposed infiltration system has been revised to maintain the average bottom of system at approximately 6-feet below grade, with a 4-inch underdrain below the bottom of the system. The report and drawings have been updated accordingly.**

5. *The Stormwater Management System and outlet structure elevations do not match between the plans, details and/or drainage analysis. Revise accordingly.*

**The outlet control structure has been revised per response to the comment above. The report and the drawings have been updated accordingly. The typical outlet control structure detail on drawing C5-03 has been reconfigured and revised with, the weir elevations noted and the weir invert elevation matching the weir elevation crest elevation in the report. The weir elevation has been removed from drawing C1-01.**

**Drainage Analysis (Stormwater Management Reports dated 11/16/23)**

1. *In this report, there appears to be a drainage pipe being utilized for storage and exfiltration, however, it is not indicated on the plans*

**The updated drainage calculations and plans do not incorporate a drainage pipe in the storage or exfiltration.**

2. *A third point of analysis, "Design Point 3" was added to this revised report, however, the Design Point and the Time Path are not shown in the updated Drainage Map.*

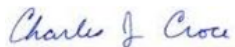
**The report has been revised to remove reference to Design Point 3. There are 2 design points named Point of Comparison A and Point of Comparison B.**

3. *Based upon item #6 above, it appears that the stage vs. discharge calculations is inconsistent with the design plans. Based upon this , we are having difficulty compare the analysis to the plans as the elevations do not match.*

**The report has been revised to be consistent with the plans. Note that the model indicates 13 rows of stormwater chambers. However, due to constraints of adjacent utilities the system was configured with 12 rows of which 7 rows were lengthened by 1 chamber to account for the modeled 13 rows of a length representing 7 chambers in each row.**

Very truly yours,

**TIGHE & BOND, INC.**



Charles J. Croce, PE  
Vice President

Enclosures: Revised Permit Drawings

## The Hotchkiss School Dining Hall Renovation and Addition Oil/Water Separator Sizing

**TO:** Salisbury WPCA  
**FROM:** Tighe & Bond  
**COPY:** File  
**DATE:** December 12, 2023

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### **CTDEEP: General Permit for the Discharge of Vehicle Maintenance Wastewater**

#### **Flow Rate/Residence Time Estimation**

Hose bib on building within the covered loading dock area, 20 gpm

Rinsing loading dock surface, 20 minutes

Total Flow: 400 gpd

Residence Time = Reservoir Volume/Inflow

Assume inflow = outflow

1000 gal/400 gpd = 2.5 days

**Per the CTDEEP General Permit for Discharges from Miscellaneous Industrial Users (MIU GP), Effective Date: October 31, 2020, Appendix H – Specific Conditions and Best Management Practices, Item (12) – Vehicle Maintenance Wastewaters (pg. 68 of 72):**

- The separator shall have a capacity of at least 1,000 gallons or have a retention time of at least six hours at the maximum daily flow, whichever is greater.



Hotchkiss School Dining  
METHOD FOR SIZING GREASE INTERCEPTORS

**Estimated Meals per Day:**

2,400 x 5 x 1 = Effective Capacity of Grease Traps and Interceptors in Gallons

M = Meals Prepared Per Day

GM = Gallons of Waste Water Per Meal (use 5 Gallons)

LF = Loading Factor (use 1.00 with dishwashing machines)

**2,400 M x 5 GM x 1 LF = 12,000 Gallons of Waste Water @ 100%**

**Total – 266.45 GPM @ 100%**

**199.83 GPM @ 75%**

**Grease Interceptor Size: 4,500 Gallon Holding Capacity, 6" inlet & outlet.  
Equal to United Concrete Precast, Model#4500-hs-20**

Estimated By Flow:

2-Pot Sink (3 Compartment)	154 GPM
21" x 27" x 14" DEEP SINK	7,938 Cubic Inches
7,938 x 3 Compartments	23,814 Cubic Inches
23,814 / 1 Gallon (231 Cubic Inches)	103 Gallons Capacity = 75%
103 x .75	77 Gallons (1 Minute Drain Period)
Dishwasher - Final Rinse Flow	3.2 GPM
Work Table w/Sink (Single Compartment)	28 GPM
21" x 21" x 12" DEEP SINK	5,292 Cubic Inches
5,292 Cubic Inches / 1 Gallon (231 Cubic Inches)	37 Gallons
Capacity: 75%	28 Gallons (1 Minute Drain Period)
Two Floor Trough	20 GPM Total
3" Connection – 5 Drainage Fixture Units	2 GPM per DFU, 10 GPM total
Seven 3" Floor Sinks	61.25 GPM Total
3" Connection – 5 Drainage Fixture Units	1.75 GPM per DFU, 8.75 GPM each, 61.25 GPM Total

TOTAL  
266.45 GPM @ 100%  
199.83 GPM @ 75%

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## Legend

### Town Boundary

- State Boundary
- Town Boundary
- Coastline

### Critical Habitat

- Beachshore, B
- Intertidal Marsh, IM
- Acidic Atlantic White Cedar Swamp
- Acidic Red/Black Spruce Basin Sw
- Circumneutral Northern White Ced
- Floodplain Forest, FF
- Beachshore, B
- Circumneutral Spring Fen, CirSF
- Floodplain Forest, FF
- Freshwater Aquatic, FA
- Medium Fen, MF
- Poor Fen, PF
- Rich Fen, RF
- Sea Level Fen, SLF
- Coastal Woodland/Shrubland, CWS
- Dry Acidic Forest, DAF
- Dry Circumneutral Forest, DCF
- Dry Subacidic Forest, DSF
- Old Growth Forest, OGF
- Subacidic Cold Talus Forest/Woodl
- Acidic Rocky Summit Outcrop, AcR

1: 4,514



0.1 0 0.07 0.1 Miles

## Notes